SIEMENS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICEIN RE APPLICATION OF:

Inventor:	M. Schlereth	)	Group Art Unit:	2157
		)		
Serial No.:	10/519,627	)	Examiner:	Kim, Hee Soo
		)		
Filed:	12/28/2004	)	Confirmation No.: 7845

Title: SYSTEM AND METHOD FOR DIRECT COMMUNICATION BETWEEN AUTOMATION APPLIANCES

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APPELLANTS' BRIEF UNDER 37 CFR 41.37

Sir:

This brief is in furtherance of the Notice of Appeal filed in this application on 8 April, 2008.

1. REAL PARTY IN INTEREST - 37 CFR 41.37(c)(1)(i)

The real party in interest in this Appeal is the assignee of the present application, Siemens Aktiengesellschaft.

2. RELATED APPEALS AND INTERFERENCES - 37 CFR 41.37(c)(1)(ii)

There is no other appeal, interference or judicial proceeding that is related to or that will directly affect, or that will be directly affected by, or that will have a bearing on the Board's decision in this Appeal.

3. STATUS OF CLAIMS - 37 CFR 41.37(c)(1)(iii)

Claims cancelled: 1 - 27 and 33.

Claims withdrawn but not cancelled: None.

Claims pending: 28 - 32 and 34 - 46.

Claims allowed: none.

Claims rejected: 28 - 32 and 34 - 46.

The claims on appeal are 28 - 32 and 34 - 46. A copy of the claims on appeal is attached hereto in the Claims Appendix. Appellants respectfully appeal the final rejection of claims 28 - 32 and 34 - 46.

4. STATUS OF AMENDMENTS - 37 CFR 41.37(c)(1)(iv)

In response to the Final Office Action mailed 8 January 2008, Appellants filed an amendment and argument under Rule 116 on 6 March 2008 to place the application in better condition for allowance of appeal. In the Advisory Action mailed 27 March 2008 the Examiner refused entry of the proposed amendment (the Examiner mistakenly referred to the reply under 1.116 as having been filed on 06 February 2008). The Examiner's stated reasons for not entering the amendment are confusing, and it appears that part of the Examiner's response was cut and pasted from an unrelated matter since it references cancelled claim 1. While the refusal to enter the amendment may raise issues unrelated to the proposed amendment, it has little bearing on the issues presented in this appeal.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER- 37 CFR 41.37(c)(1)(v)

5A. BRIEF BACKGROUND PROVIDING CONTEXT FOR THE SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to communications between automation appliances via a data transmission system. Commonly, automation devices are interconnected via networks and, specifically, often via field bus systems. Communications between these devices has often involved interfacing with intermediary central data processing units which assume the role of forwarding incoming messages or information from the automation devices to designated addresses. The invention concerns information exchange which can be bidirectional between automation devices and which can be initiated by the automation devices. As automation devices perform tasks of increasing complexity they have greater need to acquire information from other automation devices such as process values. However, collection and management of such information at a central point can delay the information flow and generate management burdens. It is thus advantageous for the automation devices to communicate directly with one another and to send information directly from to each other. With peer-to-peer communication devices are independently capable of collecting and providing information. Transmission may extend over an intranet or the internet. Given a peer-to-peer network, the inventive features facilitate improved communications between automation devices, thereby improving efficiencies and reducing intermediate steps of the type which can introduce errors or delays.

5B. CONCISE EXPLANATION OF SUBJECT MATTER DEFINED IN EACH INDEPENDENT CLAIM

With reference made by page and line number to the detailed description, the following summary describes one or more exemplary embodiments described in the Specification and which are covered by specific claims, but it is to be understood that the claims are not so limited in scope.

5B(i). <u>Summary of Subject Matter Defined In Independent Claim 28.</u>

Independent claim 28 is directed to a method for communication and/or transmission of information between automation devices $1_{1..n}$ via a data transmission system 2. See page 7, lines 31- 33. See, also, Figure 1. According to the method, requests and/or replies are sent or received by each participating automation device $1_{1..n}$. The communication and/or transmission of information takes place directly between the automation devices. See page 7, line 34 to page 8, line 12. In response to a request, addresses are sent by other automation devices directly to the automation device which submits the request. See page 9, lines 1 - 5. All of the automation devices forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge. See page 8, lines 35 - 38. See, also, Figure 2.

5B(ii). <u>Summary of Subject Matter Defined In Independent Claim 37</u>

Independent claim 37 is directed to an automation device 1 for communicating with and/or transmitting information to and from further automation devices 1_n via a data transmission system 2. See page 7, lines 31- 33. See, also, Figure 1. The automation device includes mechanisms 4 (see Figures 1 and 4) for sending and/or receiving requests and/or replies wherein the mechanisms 4 are adapted for direct communication and/or transmission of information between the automation devices $1_{1..n}$, (see page 8, lines 14 - 23) and wherein the automation device 1 is used for directly sending an address to an automation device 1_n which submits a request. See page 5, lines 28 - 39. The mechanisms 4 are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge. See page 4, line 3 - page 5, line 4.

5B(iii). <u>Summary of Subject Matter Defined In Independent Claim 44.</u>

Independent claim 44 is directed to an automation system 9 that includes a data transmission system 2 for communicating and/or transmitting information between automation devices $1_{1..n}$. See Figure 1. The automation system 9 includes at least one automation device 1_1 which comprises mechanisms 4 (see also Figure 2) for sending and/or receiving requests and/or replies. See page 8, lines 14 - 23. The mechanisms are adapted for direct communication and/or transmission of information between the automation devices $1_{1..n}$ (see page 8, lines 14 - 23).

The automation device 1_n is adapted for directly sending an address to an automation device 1_i which submits a request. The mechanisms 4 are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge. See page 4, line 3 - page 5, line 4.

6. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL - 37 CFR 41.37(c)(1)(vi)

1. Whether claims 28 - 32 and 34 - 46 are unpatentable under 35 U.S.C. Section 102 as being anticipated by U.S. Patent No. 7,159,022 (hereafter, Primm).

7. ARGUMENT 37 CFR 41.37(c)(1)(vii)

Patentability of Each Claim is to be Separately Considered

Appellant urges that patentability of each claim should be separately considered. All of the claims are separately argued. General argument, based on deficiencies in the rejection of independent claims 28, 37 and 44 under Section 102 demonstrates patentability of all dependent claims. However, none of the rejected claims stand or fall together because each dependent claim further defines a unique combination that patentably distinguishes over the art of record. For this reason, the Board is requested to consider each argument presented with regard to each dependent claim. Argument demonstrating patentability of each dependent claim is presented under subheadings identifying each claim by number.

7A. APPELLANT TRAVERSES ALL REJECTIONS BASED ON THE PRIMM REFERENCE. PATENTABILITY OF EACH CLAIM SHOULD BE SEPARATELY CONSIDERED.

7A(1) REJECTION OF THE INDEPENDENT CLAIMS 28, 37 AND 44 UNDER SECTION 102 BASED ON THE PRIMM REFERENCE IS IN ERROR.

BRIEF DISCUSSION OF THE PRIMM REFERENCE

As described in the abstract, the Primm reference concerns network enabled devices which may monitor variables, issue alarms or other notifications when variables match certain set points, etc. Such appliances may be operable to communicate with one other appliances.

With periodic pinging of peer appliances, a peer appliance may detect a failure in another appliance when an anticipated pinging is not received.

In rejecting all of the independent claims the Examiner has cited col.7, lines 27-52 in relation to a requirement in each independent claim that, generally, automation devices forward each request to all other automation devices for which there is knowledge. In the Final Office Action (see page 2, "Response to Arguments") the Examiner contends that this passage teaches

"all of the automation devices forward each request which arrives via a receiving mechanism to all other automation devices for which it has knowledge."

because the cited passage provides an example in which

"an appliance configured to have alarm settings, sends an alert to other network appliances once an alarm condition is achieved. This implies the alarm appliance sends information to other appliances for which it has knowledge for further processing ..." [see page 2 of the Final Office Action]

None of this is understood to form a basis for finding anticipation. The cited passage does disclose that when an alarm condition is achieved by one network appliance, other network appliances send their information to the remote monitoring system. (col. 7, lines 32-34), but none of this impies or otherwise discloses anything more. It is only the Appellant who teaches having all of the devices forward requests to all other devices, while the Primm reference only suggests sending information to a remote monitoring system.

The cited passage provides an example of a door alarm wherein the door sensor network appliance may send a message to other network appliances, such as a camera network appliance, but none of this involves having all of the devices forwarding each request or message to all other devices. For example, there is not disclosure that the camera network appliance forwards the received information to another appliance.

GENERAL BASIS TO OVERTURN ALL REJECTIONS UNDER SECTION 102

In order to sustain the rejection of independent claims 28, 37 and 44 under Section 102 it is necessary to clearly identify the particular part of the reference relied upon. As stated in 37 CFR 1.104(c)(2), when a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part of the reference relied upon must be designated as

nearly as practical. The Primm reference discloses multiple embodiments and features which require individual analysis to confirm whether every element in each claim is present.

MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim. It is improper for the Examiner to contend that a reference implies a disclosure of the invention when the Examiner is actually drawing an improper inference. Thus, stating that Primm implies certain features (as quoted above from page 2 of the Final Office Action) is not sufficient to sustain a rejection under Section 102. moreover, arguing on the basis of how the Examiner "interprets" the absence of a "ping command" cannot form a basis for anticipation unless there is support in the prior art for this interpretation. Thus it is improper for the Examiner to bootstrap or contrive home spun inferences and interpretations to justify a rejection. More is required.

7A(1)i REJECTION OF INDEPENDENT CLAIM 28 UNDER SECTION 102 BASED ON THE PRIMM REFERENCE IS IN ERROR.

Application of the Primm reference under Section 102 results in deficiencies that render the rejection of claim 28 incorrect. The method of claim 28 relates to communication between automation devices. As noted at pages 6-7 above, claim 28 requires that

"all of the automation devices forward each request which arrives via a receiving mechanism to all other automation devices for which it has knowledge"

and also as noted at pages 6-7 above, the Examiner has, without any credible support, argued that this quoted feature is implied by the Primm reference at col. 7, lines 27-52. In fact, the claimed feature is not taught or suggested and the argument that it is implied is not supported by the citation. Instead, the Examiner wishes to infer that a feature of the invention is present in this passage. For these reasons the rejection of claim 28 must be overturned.

7A(1)ii REJECTION OF INDEPENDENT CLAIM 37 UNDER SECTION 102 BASED ON THE PRIMM REFERENCE IS ALSO IN ERROR.

Application of the Primm reference under Section 102 also results in deficiencies that render the rejection of claim 37 incorrect. Claim 37 is directed to an automation device for communication with other automation devices. Similar to the above-quoted language of claim 28, claim 37 requires that the automation device is used for directly sending an address to an automation device which submits a request,

"wherein the mechanisms are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge."

In this regard, the Examiner has again relied on the Primm reference at col. 7, lines 27-52 to "find" this claimed feature. However, as noted at pages 6-7 above, the reference is devoid of any such subject matter and, at best, the Examiner has drawn an improper inference which is inconsistent with the cited text. Having failed to read all elements of claim 37 on the prior art there can be no rejection. The Board is asked to overturn this improper rejection.

7A(1)iii REJECTION OF INDEPENDENT CLAIM 44 UNDER SECTION 102 BASED ON THE PRIMM REFERENCE IS ALSO IN ERROR.

Application of the Primm reference under Section 102 to reject claim 44 is also improper. Claim 44 is directed to an automation system including a data transmission device and at lest one automation device. Among other features, the automation device is

"adapted for directly sending an address to an automation device which submits a request and the mechanisms are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge." Emphasis Added.

Based on similarities between the above-quoted language and the language quoted above from claims 28 and 37, it is urged that, once more, the Examiner has incorrectly relied upon the Primm reference at col. 7, lines 27-52 to "find" the underlined claimed feature. Again, as noted at pages 6-7 above, the Primm reference is devoid of any such subject matter and, at best, the Examiner has drawn an improper inference which is inconsistent with the cited text. Having

failed to read all elements of claim 44 on the prior art there can be no rejection. The Board is asked to overturn this improper rejection.

7A(2) THE REJECTION OF EACH CLAIM 29-32, 34-36, 38-43 AND 45-46, WHICH DEPENDS FROM CLAIM 28, CLAIM 37 OF CLAIM 44, UNDER SECTION 102 BASED ON THE PRIMM REFERENCE IS ALSO IN ERROR.

Each of the claims depending from claims 28, 37 and 44 and rejected under section 102 defines distinct and non-obvious subject matter and further distinguishes the invention over the prior art.

CLAIM 29 FURTHER DISTINGUISHES OVER THE ART OF RECORD

Claim 29 requires that the communication between the automation devices takes place in the form of peer-to-peer communication. Appellant claims a non-obvious combination and, based on the entire combination it is urged that this claim further distinguishes.

CLAIM 30 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to claim 30, the communication and/or transmission of information takes place via an Intranet and/or Internet. Again, Appellant claims a non-obvious combination and, based on the entire combination it is urged that this claim further distinguishes.

CLAIM 31 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to the method of Claim 31, communication takes place via a basic service of an operating system. Although the Examiner cites col. 6, lines 32 - 38 in support of this rejection it is urged that the passage does not disclose this subject matter.

CLAIM 32 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to claim 32, each automation device sends a request via the data transmission system to all other automation devices of which it has knowledge. The rejection cites col.17, lines 31-46 of the Primm reference to reject this claim, but it is not seen how the cited passage has any relation to the claimed subject matter. Because it is encumbent upon the Examiner to provide express support for a rejection under Section 102, this rejection must be overturned.

CLAIM 34 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to the method of claim 34, automation devices directly collect information from automation devices which make information available at the address which has been sent. The rejection again cites col.17, lines 31-46 of the Primm reference to reject this claim, but, just as noted for claim 32, it is not seen how the cited passage has any relation to the claimed subject matter. Because it is incumbent upon the Examiner to provide express support for a rejection under Section 102, this rejection must also be overturned.

CLAIM 35 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to the method of claim 35, the forwarding of the request through the automation devices is cancelled on the basis of a time limit. The Appellant and the Examiner are in strong disagreement on application of the Primm reference to find this feature. This is because the passage (Col. 8, lines 28-44) cited as disclosing Appellant's teachings does not provide any support for the claimed subject matter. That is, learning of a shutdown or device failure, or not receiving a response to a ping – are not the same as cancelling a request "on the basis of a time limit." The Examiner admittedly "interprets" the passage without any credible basis for such an interpretation. More is required.

CLAIM 36 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to the method of claim 36, a plurality of automation devices are configured to send and receive requests and the addresses of the participating automation devices are managed by a device other than one of the automation devices which is connected to the data transmission system. This rejection is, like other rejections, based on the Examiner's interpretations which are no more than impermissible and incorrect inferences. Reliance on Cols. 14 and 15 of the Primm reference is not understood. Appellant claims a management device and the Examiner only cites disclosure of a device directory which can be used by network appliances. The rejection must be overturned.

CLAIM 38 FURTHER DISTINGUISHES OVER THE ART OF RECORD

In the automation device of Claim 38, the mechanisms are used for peer-to-peer communication between the automation devices. Appellant claims a non-obvious combination and, based on the entire combination it is urged that this claim further distinguishes.

CLAIM 39 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to claim 39, the mechanisms for sending and/or receiving are designed as a basic service of an operating system for communication. The Examiner's citation of Col. 6, lines 32-38 does not disclose this subject matter and the rejection must be withdrawn.

CLAIM 40 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to claim 40, the automation device is used for sending a request via the data transmission system to all other automation devices of which it has knowledge. The rejection cites col.17, lines 31-46 of the Primm reference to reject this claim, but it is not seen how the cited passage has any relation to the claimed subject matter. Because it is incumbent upon the Examiner to provide express support for a rejection under Section 102, this rejection must be overturned.

CLAIM 41 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to claim 41, the data transmission system includes a plurality of automation devices each configured to send and receive requests and a device in addition to the automation devices which manages the addresses of the participating automation devices. This rejection is premised on an "interpretation" that an appliance becomes a server if the appliance contains a device directory, but this is not what is claimed. The claim expressly states that "a device in addition to the automation devices ... manages the addresses ..." and the Examiner understands that even if an appliance "acts" as a server, the appliance is still an appliance! The rejection must be overturned.

CLAIM 42 FURTHER DISTINGUISHES OVER THE ART OF RECORD

In the device of claim 42, the mechanisms for sending and/or receiving are adapted for the direct collection of information from automation devices which make information available at the address which has been sent.

CLAIM 43 FURTHER DISTINGUISHES OVER THE ART OF RECORD

In the automation device according to Claim 43, the request comprises a mechanism for cancelling its forwarding through the automation devices on the basis of a time limit. As discussed with regard to claim 35, the Appellant and the Examiner are in strong disagreement on application of the Primm reference to find this feature. This is because the passage (Col. 8, lines 28-44) cited as disclosing Appellant's teachings does not provide any support for the claimed subject matter. That is, learning of a shutdown or device failure, or not receiving a response to a ping – are not the same as cancelling a request "on the basis of a time limit." The Examiner admittedly "interprets" the passage without any credible basis for such an interpretation. More is required.

CLAIM 45 FURTHER DISTINGUISHES OVER THE ART OF RECORD

According to the automation system of Claim 45, the data transmission system is an Intranet and/or Internet. Again, Appellant claims a non-obvious combination and, based on the entire combination it is urged that this claim further distinguishes.

CLAIM 46 FURTHER DISTINGUISHES OVER THE ART OF RECORD

In the automation system according to Claim 46, a plurality of additional automation devices are configured to send and receive requests. The system further includes a device other than one of the automation devices connected to the data transmission system for managing the addresses of the participating automation devices. Like the improper rejection of claim 41, this rejection is premised on an "interpretation" that an applicance becomes a server if the appliance contains a device directory, but this is not what is claimed. The claim expressly states that "a device in addition to the automation devices ... manages the addresses ..." and the Examiner understands that even if an appliance "acts" as a server, the appliance is still an appliance. The rejection must be overturned.

7B. CONCLUSIONS

Argument has been presented to demonstrate that the rejections under Section 102 are deficient and that the dependent claims further distinguish over the prior art. The Examiner has argued rejections when claimed features are absent from the references and not suggested by the prior art. Accordingly, none of the rejections can be sustained. For all of the above argued reasons, all of the rejections should be withdrawn and the claims should be allowed.

8. APPENDICES

An appendix containing a copy of the claims involved in this appeal is provided herewith. No evidence appendix or related proceedings appendix is provided because no such evidence or related proceeding is applicable to this appeal.

Respectfully submitted,

Dated: _____*6/9/08*_____   By:_____
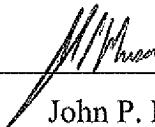
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APPENDIX OF CLAIMS ON APPEAL

28. A method for communication and/or transmission of information between automation devices via a data transmission system, the method comprising:

sending and/or receiving requests and/or replies by each participating automation device, wherein

the communication and/or transmission of information takes place directly between the automation devices; and

sending an address by the automation devices directly to the automation device which submits the request,

wherein all of the automation devices forward each request which arrives via a receiving mechanism to all other automation devices for which it has knowledge.

29. The method according to Claim 28, wherein the communication between the automation devices takes place in the form of peer-to-peer communication.

30. The method according to Claim 28, wherein the communication and/or transmission of information takes place via an Intranet and/or Internet.

31. The method according to Claim 28, wherein communication takes place via a basic service of an operating system.

32. The method according to Claim 28, wherein each automation device sends a request via the data transmission system to all other automation devices of which it has knowledge.

34. The method according to Claim 28, wherein the automation devices directly collect information from automation devices which make information available at the address which has been sent.

35. The method according to Claim 28, wherein the forwarding of the request through the automation devices is canceled on the basis of a time limit.

36. The method according to Claim 28, wherein a plurality of automation devices are configured to send and receive requests and the addresses of the participating automation devices are managed by a device other than one of the automation devices which is connected to the data transmission system.

37. An automation device for communicating with and/or transmitting information to and from further automation devices via a data transmission system, the automation device comprising:

mechanisms for sending and/or receiving requests and/or replies, wherein the mechanisms are adapted for direct communication and/or transmission of information between the automation devices, and wherein

the automation device is used for directly sending an address to an automation device which submits a request,

wherein the mechanisms are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge.

38. The automation device according to Claim 37, wherein the mechanisms are used for peer-to-peer communication between the automation devices.

39. The automation device according to Claim 37, wherein the mechanisms for sending and/or receiving are designed as a basic service of an operating system for communication.

40. The automation device according to Claim 37, wherein the automation device is used for sending a request via the data transmission system to all other automation devices of which it has knowledge.

41. The automation device according to Claim 37, wherein the data transmission system includes a plurality of automation devices each configured to send and receive requests and a device in addition to the automation devices which manages the addresses of the participating automation devices.

42. The automation device according to Claim 37, wherein the mechanisms for sending and/or receiving are adapted for the direct collection of information from automation devices which make information available at the address which has been sent.

43. The automation device according to Claim 37, wherein the request comprises a mechanism for canceling its forwarding through the automation devices on the basis of a time limit.

44. An automation system comprising:

a data transmission system for communicating and/or transmitting information between automation devices; and

at least one automation device, the automation device comprising:

mechanisms for sending and/or receiving requests and/or replies, wherein the mechanisms are adapted for direct communication and/or transmission of information between the automation devices, and wherein:

the automation device is adapted for directly sending an address to an automation device which submits a request and

the mechanisms are adapted to forward each request which arrives via a receiving mechanism to all other automation devices for which there is knowledge.

45. The automation system according to Claim 44, wherein the data transmission system is an Intranet and/or Internet.

46. The automation system according to Claim 44, wherein a plurality of additional automation devices are configured to send and receive requests, the system further comprising a device other than one of the automation devices connected to the data transmission system for managing the addresses of the participating automation devices.

EVIDENCE APPENDIX - 37 CFR 41.37(c) (1) (ix)

None

RELATED PROCEEDINGS APPENDIX - 37 CFR 41.37(c) (1) (x)

None